

#### ABSTRACT OF DISCLOSURE

An electrolyte of a lithium secondary battery includes lithium salts, an organic solvent with a high boiling point, and a carbonate-based additive compound having substituents selected from the group consisting of a halogen, a cyano (CN), and a nitro (NO<sub>2</sub>). The electrolyte improves discharge, low temperature, and cycle life characteristics of a lithium secondary battery.